

ABSTRACT

5

A semiconductor structure includes a monocrystalline silicon substrate, an amorphous oxide material overlying the monocrystalline silicon substrate, a monocrystalline perovskite oxide material overlying the amorphous oxide material, and a monocrystalline compound semiconductor material overlying the monocrystalline perovskite oxide material. A composite transistor includes a first transistor having first active regions formed in the monocrystalline silicon substrate, a second transistor having second active regions formed in the monocrystalline compound semiconductor material, and a mode control terminal for controlling the first transistor and the second transistor.

15